

IN THE CLAIMS

48. (currently amended) A method for measuring an activity of an intracellular chemical reaction of a single species of a molecule of a selected enzyme in a cell or cellular component thereof, said method comprising:

- (a) controllably selecting at least one of a plurality of cells or cellular component thereof, in a medium;
- (b) selecting a substrate specific to said single species of said molecule;
- (c) providing a label for said substrate;
- (d) inducing or permitting the catalysis of a reaction in the cell or cellular component thereof between a labeled substrate and the enzyme said single species of said molecule and said substrate, said reaction producing altered substrate molecules and including attachment of said label to said altered substrate;
- (e) disrupting or lysing said at least one selected cell or cellular component thereof with a laser generated shock wave in said medium in close proximity to said selected cell or component thereof to terminate said reaction;
- (f) collecting said substrate, altered substrate, both or portions thereof; for
- (g) analyzing said collected substrate in an analysis device; and
- (h) determining activity of the enzyme said chemical reaction from a comparison of detected an amount of the altered substrate molecules with detected and an amount of the substrate molecules.

49. (cancelled)

50. (currently amended) The method of claim 48 wherein ~~said portion of said substrate of said cell or cellular component thereof is collected~~ collecting is within 33 msec or less of ~~lysis~~ said disrupting or lysing of said cell.

51. (currently amended) The method of claim 48 wherein ~~said portion of said substrate of said cell or cellular component thereof is collected~~ collecting is within a 1 - 10 microseconds of ~~lysis~~ said disrupting or lysing of said cell.

52-58. (cancelled)

59. (currently amended) The method of claim 48 wherein the collecting at least a portion of ~~said substrate in said analysis device collects~~ said cell or cellular component thereof comprises collecting in an electrophoretic column or channel.

60. (cancelled)

61. (currently amended) The method of claim 48 wherein producing a laser generated shock wave ~~in close proximity to said selected cell or cellular component~~ comprises focusing a pulsed laser beam at a position proximate to said cell or cellular component thereof without focusing on said cell or cellular component thereof, and generating said shock wave.

62. (currently amended) The method of claim 48 wherein producing a laser generated shock wave ~~in close proximity to said selected cell or cellular component thereof~~ comprises focusing a pulsed laser beam directly in or on said cell or cellular component thereof, and generating said shock wave.

63. (currently amended) The method of claim 62, further comprising defining an opening in said cell or cellular component thereof to lyse only cytoplasmic contents therefrom by said step of focusing of the a pulsed laser beam directly in or on said cell or cellular component thereof ~~to lyse said cell or cellular component thereof~~.

64. (currently amended) The method of claim 48 wherein said collecting at least a portion of ~~said substrate of said lysed cell or cellular component thereof in said analysis device~~ is by means of fluid flow of said medium.

65. (currently amended) The method of claim 64 wherein said collecting at least a portion of ~~said substrate of said lysed cell or cellular component thereof in said analysis device~~ is by means of siphon fluid flow of said medium.

66. (currently amended) The method of claim 48 wherein said collecting at least a portion of ~~said substrate of said lysed cell or cellular component thereof in said analysis device~~ is by means of electrophoresis through said medium.

67. (currently amended) The method of claim 64 wherein said collecting at least a portion of ~~said substrate of said lysed cell or cellular component thereof in said analysis device~~ is by ~~means of~~ force from said shock wave ~~imparted to said substrate~~.

68. (currently amended) The method of claim 64 wherein said collecting at least a portion of ~~said substrate of said lysed cell or cellular component thereof in said analysis device~~ is by ~~means of~~ electroosmotic fluid flow.

69. (currently amended) The method of claim 48 wherein producing a laser generated shock wave ~~in close proximity to said selected cell in said medium~~ is performed at an energy density level just sufficient to split open said selected cell so that substantially all of said contents of said lysed cell or cellular component thereof and said substrate remain proximate to said lysed cell or cellular component thereof.

70. (currently amended) The method of claim 48 where further comprising analyzing said collected substrate and altered substrate comprises analyzing said collected cell contents by ~~means of~~ laser induced fluorescence.

71. (previously added) The method of claim 48 further comprising utilizing said collected substrate.

72. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting by means of with a microlumen of a capillary of a micropipette.

73. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting by means with a microlumen of a microfabricated channel.

74. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting by means of with a microlumen, and further comprises aspirating said portion of said substrate into said microlumen.

75. (currently amended) The method of claim 74 wherein said aspirating said portion of said substrate into said microlumen comprises aspirating said portion of said substrate into a capillary of a micropipette.

76. (currently amended) The method of claim 74 wherein said aspirating said portion of said substrate into said microlumen comprises aspirating said portion of said substrate into a microfabricated channel.

77. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting by means of with a microlumen, and

comprises collecting said portion of said substrate within one second of producing a the laser generated shock wave ~~to lyse said cell.~~

78. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting ~~by means of~~ with a microlumen, and comprises collecting said accessible substrate within 33 msec of producing a the laser generated shock wave ~~to lyse said cell.~~

79. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting ~~by means of~~ with a microlumen, and comprises collecting said portion of said substrate within 10 microseconds of producing the a laser generated shock wave ~~to lyse said cell.~~

80. (currently amended) The method of claim 48 wherein said collecting said portion of said substrate comprises collecting ~~by means of~~ with a microlumen, and comprises collecting said portion of said substrate within 1 microsecond of producing a the laser generated shock wave ~~to lyse said cell.~~

81. (currently amended) The method of claim 48 further comprising where ~~said step of analyzing further comprises~~ analyzing said substrate after lysis by an analysis device, wherein said substrate has no substantial difference in form between the condition of said substrate before and after lysing.

82. - 102. (cancelled).

103. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 48.

104. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 50.

105. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 51.

106. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 59.

107. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 61.

108. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 62.

109. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 63.

110. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 64.

111. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 65.

112. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 66.

113. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 67.

114. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 68.

115. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 69.

116. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 70.

117. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 71.

118. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 72.

119. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 73.

120. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 74.

121. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 75.

122. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 76.

123. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 77.

124. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 78.

125. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 79.

126. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 80.

127. (New) A method of measuring activity of a plurality of enzymes in a cell or cellular component thereof, said method comprising simultaneously measuring the activity of each enzyme of the plurality of enzymes by the method of claim 81.